

What is claimed is:

1. A method of treatment or prophylaxis of cancer in a subject in need thereof comprising administering to the subject p75<sup>NTR</sup> gene or a fragment thereof in an amount effective to increase tumor suppression and/or tumor apoptosis.
2. The method of Claim 1, wherein the p75<sup>NTR</sup> gene or fragment thereof is administered in an amount sufficient to maintain a level of p75<sup>NTR</sup> mRNA which at least partially compensates for the loss of p75<sup>NTR</sup> mRNA associated with p75<sup>NTR</sup> mRNA degradation in cancerous or precancerous cells.
3. The method of Claim 1, wherein the p75<sup>NTR</sup> gene or fragment thereof is administered in cDNA form.
4. The method of Claim 1, wherein the p75<sup>NTR</sup> gene or fragment thereof is administered directly in the form of naked DNA, in a liposomal delivery system or by a combination of receptor mediated uptake and internalization into endosomes.
5. The method of Claim 1, wherein p75<sup>NTR</sup> gene or fragment thereof is administered in an amount of about 100 µg/50 g body weight to about 5 µg/g body weight.
6. The method of Claim 1, wherein p75<sup>NTR</sup> gene or fragment thereof is administered in conjunction with a tumor cell apoptosis promoting agent.
7. The method of Claim 1, wherein the p75<sup>NTR</sup> gene or a fragment thereof is administered in an amount sufficient to induce G0/G1 cell cycle arrest.
8. The method of Claim 1, wherein tumor suppression comprises decreased cell proliferation.
9. The method of Claim 1, wherein increasing tumor apoptosis comprises reestablishing the apoptotic pathway associated with normal-cell p75<sup>NTR</sup> gene expression.
10. The method of Claim 1, wherein the cancer is prostate cancer.

11. The method of Claim 10, wherein the p75<sup>NTR</sup> gene or fragment thereof is administered in an amount sufficient to induce an accumulation of at least 56% of the tumor cells in the G0/G1 phase.

12. The method of Claim 10, wherein the p75<sup>NTR</sup> gene or fragment thereof is administered in an amount sufficient to induce an accumulation of at least 59% of the tumor cells in the G0/G1 phase.

13. The method of Claim 10, wherein the p75<sup>NTR</sup> gene or fragment thereof is administered in an amount sufficient to induce an accumulation of at least 68% of the tumor cells in the G0/G1 phase.

14. The method of Claim 10, wherein the p75<sup>NTR</sup> gene or fragment thereof is administered in an amount sufficient to induce an accumulation of at most 16% of the tumor cells in the G2-M phase and at most 28% in the S phase.

15. The method of Claim 10, wherein the p75<sup>NTR</sup> gene or fragment thereof is administered in an amount sufficient to induce an accumulation of at most 12% of the tumor cells in the G2-M phase and at most 28% in the S phase.

16. The method of Claim 10, wherein the p75<sup>NTR</sup> gene or fragment thereof is administered in an amount sufficient to induce an accumulation of at most 11% of the tumor cells in the G2-M phase and at most 21% in the S phase.

17. The method of Claim 10, wherein the p75<sup>NTR</sup> gene or fragment thereof is administered in an amount sufficient to reduce the percentage of proliferating tumor cells to about 42% or less.

18. The method of Claim 10, wherein the p75<sup>NTR</sup> gene or fragment thereof is administered in an amount sufficient to reduce the percentage of proliferating tumor cells to about 26% or less.

19. The method of Claim 1, further comprising administering to the subject a p75<sup>NTR</sup> mRNA stabilizing agent.

20. The method of Claim 19, wherein the agent comprises one or more RNA-binding proteins.

21. The method of Claim 19, wherein the agent is capable of regulating cell nutrients and/or cytokines associated with p75<sup>NTR</sup> mRNA stability.

22. A method of treatment or prophylaxis of cancer in a subject in need thereof comprising administering to the subject a p75<sup>NTR</sup> mRNA stabilizing agent.

23. The method of Claim 22, wherein the agent comprises one or more RNA-binding proteins.

24. The method of Claim 22, wherein the agent is capable of regulating cell levels of nutrients and/or cytokines associated with p75<sup>NTR</sup> mRNA stability.

25. A method for early diagnosis of prostate cancer comprising determining p75<sup>NTR</sup> mRNA levels in prostate tissue of a subject.

26. The method of Claim 25, wherein determining p75<sup>NTR</sup> mRNA levels in prostate tissue comprises isolating the RNA from the tissue; subjecting the RNA to reverse transcription and then to PCR amplification with a suitable primer; precipitating the product of the amplification reaction; and subjecting the precipitate to electrophoresis analysis to determine the level of RNA in the prostate tissue.

27. The method of Claim 26, wherein the electrophoresis analysis is conducted on a dilution of the product of an amplification reaction of an RNA extract of the A874 cell line as positive control.

28. A method of reducing or preventing prostate tumor metastasis in a subject in need thereof comprising administering to the subject p75<sup>NTR</sup> gene or a fragment thereof in an amount effective to prevent or reduce tumor metastasis.

29. A method of reducing or preventing prostate tumor metastasis in a subject in need thereof comprising administering to the subject a p75<sup>NTR</sup> mRNA stabilizing agent.

30. A method for early diagnosis of prostate cancer comprising determining p75<sup>NTR</sup> expression levels in prostate tissue of a subject.

31. A method of treatment or prophylaxis of cancer in a subject in need thereof comprising administering to the subject an agent capable of promoting expression of endogenous p75<sup>NTR</sup> gene in an amount effective to increase tumor suppression and/or tumor apoptosis.

32. A method of treatment or prophylaxis of cancer in a subject in need thereof comprising administering to the subject p75<sup>NTR</sup> protein in an amount effective to increase tumor suppression and/or tumor apoptosis.

33. The method of Claim 32, wherein the p75<sup>NTR</sup> protein is administered in an amount sufficient to maintain a level of p75<sup>NTR</sup> which at least partially compensates for the loss of p75<sup>NTR</sup> mRNA associated with p75<sup>NTR</sup> mRNA degradation in cancerous or precancerous cells.

34. The method of Claim 32, wherein the p75<sup>NTR</sup> protein is administered directly or in a liposomal delivery system.